

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 09 August 1999 (09.08.99)	Applicant's or agent's file reference 30970139 WO
International application No. PCT/GB98/03632	Priority date (day/month/year) 04 December 1997 (04.12.97)
International filing date (day/month/year) 04 December 1998 (04.12.98)	
Applicant REES, Owen, Richard, Thomas et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 02 July 1999 (02.07.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Lazar Joseph Panakal Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

LAWMAN, Matthew, John, Mitchell
Hewlett-Packard Limited
Intellectual Property Section
Filton Road
Stoke Gifford
Bristol BS34 8QZ
ROYAUME-UNI

Date of mailing (day/month/year) 29 May 2000 (29.05.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 30970139 WO	
International application No. PCT/GB98/03632	International filing date (day/month/year) 04 December 1998 (04.12.98)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address REES, Owen, Richard, Thomas 43 Ffos-Y-Fran Bassaleg Newport NP1 9LU United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input checked="" type="checkbox"/> the name	<input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence
Name and Address REES, Robert, Thomas, Owen 43 Ffos-Y-Fran Bassaleg Newport NP1 9LU United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740 14 35	Authorized officer Yolaine CUSSAC Telephone No. (41-22) 338 83 38
--	---

PATENT COOPERATION TREATY

PCT

09 / 555 465

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 30970139 WO	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 98/ 03632	International filing date (day/month/year) 04/12/1998	(Earliest) Priority Date (day/month/year) 04/12/1997
Applicant HEWLETT-PACKARD COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

10



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 98/03632

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The abstract is changed as follows:

line 5, replace "specifically for" for "specific to"

line 6, delete "enough", replace "that" for "enabling the recovery of",
delete "can be recovered."

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03632

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04L29/06 G06F9/46 G06F1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04L G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>STEINDER M ET AL: "A framework for inter-ORB request level bridge construction"</p> <p>DISTRIBUTED PLATFORMS. PROCEEDINGS OF THE IFIP/IEEE INTERNATIONAL CONFERENCE ON DISTRIBUTED PLATFORMS: CLIENT/SERVER AND BEYOND: DCE, CORBA, ODP AND ADVANCED DISTRIBUTED APPLICATIONS (IEEE CAT.NO.96TH8167), PROCEEDINGS OF IFIP/IEEE INTERNATIONAL CONF, pages 86-99, XP002102557</p> <p>ISBN 0-412-73280-7, 1996, London, UK, Chapman & Hall, UK</p> <p>see paragraph 5.2 - paragraph 6</p> <p>---</p> <p>-/--</p>	<p>1-5, 8-11, 13, 33</p>



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

12 May 1999

Date of mailing of the international search report

28/05/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Dupuis, H

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 98/03632

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>EVANS E ET AL: "Using Java applets and CORBA for multi-user distributed applications"</p> <p>IEEE INTERNET COMPUTING, vol. 1, no. 3, 1 May 1997, pages 43-55, XP002080603</p> <p>see page 44, right-hand column, line 49 - page 49, left-hand column, line 13</p> <p>see page 53, right-hand column, line 35 - page 54, left-hand column, line 6</p> <p>---</p>	1, 2, 25, 29, 33
A	<p>HOFFNER Y: "Inter-operability and distributed application platform design"</p> <p>DISTRIBUTED PLATFORMS. PROCEEDINGS OF THE IFIP/IEEE INTERNATIONAL CONFERENCE ON DISTRIBUTED PLATFORMS: CLIENT/SERVER AND BEYOND: DCE, CORBA, ODP AND ADVANCED DISTRIBUTED APPLICATIONS (IEEE CAT.NO.96TH8167), PROCEEDINGS OF IFIP/IEEE INTERNATIONAL CONF, pages 342-356, XP002102558</p> <p>ISBN 0-412-73280-7, 1996, London, UK, Chapman & Hall, UK</p> <p>see paragraph 1</p> <p>see paragraph 3.3.3</p> <p>see paragraph 4.2 - paragraph 5.2.1</p> <p>---</p>	1
A	<p>GB 2 305 270 A (IBM) 2 April 1997</p> <p>see page 11, line 18 - page 13, line 27</p> <p>---</p>	1
A	<p>MINTON G: "IIOP specification: a closer look"</p> <p>UNIX REVIEW, JAN. 1997, MILLER FREEMAN, USA, vol. 15, no. 1, pages 41-44, 46, 48, 50, XP002102559</p> <p>ISSN 0742-3136</p> <p>see page 42, right-hand column, line 10 - page 43, right-hand column, line 7</p> <p>see page 44, right-hand column, line 39 - page 46, left-hand column, line 17</p> <p>-----</p>	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 98/03632

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2305270 A	02-04-1997	EP 0850446 A	01-07-1998
		WO 9710546 A	20-03-1997
		JP 10511794 T	10-11-1998
		US 5862328 A	19-01-1999

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

LAWMAN, Matthew, John, Mitchell
Hewlett-Packard Limited
Intellectual Property Section
Filton Road
Bristol BS34 8QZ
GRANDE BRETAGNE

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing
(day/month/year)

25. 02. 00

Applicant's or agent's file reference
30970139 WO

IMPORTANT NOTIFICATION

International application No.
PCT/GB98/03632

International filing date (day/month/year)
04/12/1998

Priority date (day/month/year)
04/12/1997

Applicant
HEWLETT-PACKARD COMPANY et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Ahrens, R

Tel. +49 89 2399-8136



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 30970139 WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB98/03632	International filing date (day/month/year) 04/12/1998	Priority date (day/month/year) 04/12/1997	
International Patent Classification (IPC) or national classification and IPC H04L29/06			
Applicant HEWLETT-PACKARD COMPANY et al.			



- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 02/07/1999	Date of completion of this report 25. 02. 00
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Kappatou, E Telephone No. +49 89 2399 7521 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/03632

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-42 as originally filed

Claims, No.:

1-33 as originally filed

Drawings, sheets:

1/16-16/16 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/03632

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims
	No:	Claims 1-5, 10, 11, 13, 29
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-33
Industrial applicability (IA)	Yes:	Claims 1-33
	No:	Claims

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB98/03632

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: STEINDER M ET AL: 'A framework for inter-ORB request level bridge construction' DISTRIBUTED PLATFORMS. PROCEEDINGS OF THE IFIP/IEEE INTERNATIONAL CONFERENCE ON DISTRIBUTED PLATFORMS: CLIENT/SERVER AND BEYOND: DCE, CORBA, ODP AND ADVANCED DISTRIBUTED APPLICATIONS (IEEE CAT.NO.96TH8167), PROCEEDINGS OF IFIP/IEEE INTERNATIONAL CONF, pages 86-99, XP002102557 ISBN 0-412-73280-7, 1996, London, UK, Chapman & Hall, UK

2. The present application does not meet the requirements of Article 33(1) PCT, because the subject-matter of independent **claim 1** is not new in the sense of Article 33(2) PCT.

- 2.1. Document D1, which is considered to represent the most relevant state of the art, discloses (cf. in particular paragraphs 5.2 to 6), according to the features of claim 1 of the current application, a system arranged to provide a gateway (in this case in a half-bridge Framework, the InterORB_Proxy object) between a first network and a second network (see figure 3, client ORB and server ORB respectively; page 87, last paragraph to page 88, first paragraph), the system comprising:

- a. interface means (Dynamic Skeleton Interface, DSI) adapted to receive from the first network a message intended for an object in the second network (ServerRequest), the message including an identifier for a further object in either the first or second network (see paragraph 4.2 and paragraph 5.1, lines 1 to 7);
- b. means to generate further interface means for receiving from the second network messages for the further-object (Dynamic Invocation Interface, DII) ;
- c. means to form a new identifier for the further interface means (see

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB98/03632

- paragraph 5.4, Interoperable Object Reference IOR);
- d. means to replace the received identifier with the new identifier in the message (see page 95, paragraph 3, line 5: "which replace IOR in the request"); and
 - e. means to forward the message to the object in the second network (see paragraph 5.1, lines 5 to 7).
3. The above finding also applies to claim 33 which corresponds to claim 1.
4. The additional features of the **dependent claims** do not add anything new or inventive to claim 1, because they are either known from document D1, page 96, lines 5 to 8 and paragraph 5.4 (i.e. recovery, new and received identifier, name tag) or common measures (i.e. check data, hash operation, secret, templates, trusted operating system).

Re Item VII

Certain defects in the international application

- 1. The independent claims are not in the two-part form vis-a-vis document D1 in accordance with Rule 6.3(b) PCT.
- 2. The cited document D1 is not identified in the description and the relevant background art disclosed therein was not briefly discussed, (Rule 5.1(a)(ii) PCT).
- 3. The claims do not comprise reference signs placed in parentheses (Rule 6.2(b) PCT).
- 4. The European Patent Application cited on page 24, line 30 of the description is not referred to by the corresponding Publication number EP-A- 0926605 (Article 5 PCT).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB98/03632

Re Item VIII

Certain observations on the international application

1. In claim 2 there is not an antecedent definition for "**the** system of the received identifier", Article 6 PCT.

The same applies for claim 30, line 10.

2. Apparatus claims 11 to 13 and 26 comprise method steps and are therefore not clear concerning the category, Article 6 PCT.
3. The parentheses in claim 8 render the matter for which protection is sought unclear, Article 6 PCT.

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

09/555465 94038080US

For receiving Office use only

PCT/GB-98/03632

International Application No.

04 DECEMBER 1998

International Filing Date

04-12-98

United Kingdom Patent Office
PCT International Application

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) 30970139 WO

Box No. I TITLE OF INVENTION

Object Gateway

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

Hewlett-Packard Company
3000 Hanover Street
Palo Alto
CA 94304
US

☐ This person is also inventor.

Telephone No.

Facsimile No.

Teleprinter No.

State (that is, country) of nationality:
US

State (that is, country) of residence:
US

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

REES, Owen Richard Thomas
43 Ffos-Y-Fran
Bassaleg
Newport NP1 9LU
(South Wales)
GB

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:
GB

State (that is, country) of residence:
GB

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

LAWMAN, Matthew John Mitchell
Hewlett-Packard Limited
Intellectual Property Section
Filton Road
Stoke Gifford, Bristol BS34 8QZ
GB

Telephone No.

(0) 117-922-8026

Facsimile No.

(0) 117-922-8941

Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

C ntinuati n of B x N . III FURTHER APPLICANTS AND/OR (FURTHER) INVENTORS*If none of the following sub-boxes is used, this sheet should not be included in the request.*

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

EDWARDS, Nigel John
36 Wellington Hill
Horfield
Bristol BS7 8SR
GB

This person is:

- ☐ applicant only
☒ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:
GB

State (that is, country) of residence:
GB

This person is applicant
for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant
for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant
for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant
for the purposes of:

- ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☐ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☐ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☐ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | |
|---|---|
| <input type="checkbox"/> AL Albania | <input type="checkbox"/> LS Lesotho |
| <input type="checkbox"/> AM Armenia | <input type="checkbox"/> LT Lithuania |
| <input type="checkbox"/> AT Austria | <input type="checkbox"/> LU Luxembourg |
| <input checked="" type="checkbox"/> AU Australia | <input type="checkbox"/> LV Latvia |
| <input type="checkbox"/> AZ Azerbaijan | <input type="checkbox"/> MD Republic of Moldova |
| <input type="checkbox"/> BA Bosnia and Herzegovina | <input type="checkbox"/> MG Madagascar |
| <input type="checkbox"/> BB Barbados | <input type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input type="checkbox"/> BG Bulgaria | |
| <input type="checkbox"/> BR Brazil | <input type="checkbox"/> MN Mongolia |
| <input type="checkbox"/> BY Belarus | <input type="checkbox"/> MW Malawi |
| <input type="checkbox"/> CA Canada | <input type="checkbox"/> MX Mexico |
| <input type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input type="checkbox"/> NO Norway |
| <input type="checkbox"/> CN China | <input type="checkbox"/> NZ New Zealand |
| <input type="checkbox"/> CU Cuba | <input type="checkbox"/> PL Poland |
| <input type="checkbox"/> CZ Czech Republic | <input type="checkbox"/> PT Portugal |
| <input type="checkbox"/> DE Germany | <input type="checkbox"/> RO Romania |
| <input type="checkbox"/> DK Denmark | <input type="checkbox"/> RU Russian Federation |
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| <input type="checkbox"/> GH Ghana | <input type="checkbox"/> SL Sierra Leone |
| <input type="checkbox"/> GM Gambia | <input type="checkbox"/> TJ Tajikistan |
| <input type="checkbox"/> GW Guinea-Bissau | <input type="checkbox"/> TM Turkmenistan |
| <input type="checkbox"/> HR Croatia | <input type="checkbox"/> TR Turkey |
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| <input type="checkbox"/> ID Indonesia | <input type="checkbox"/> UA Ukraine |
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| <input type="checkbox"/> IS Iceland | <input checked="" type="checkbox"/> US United States of America |
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| <input type="checkbox"/> KE Kenya | <input type="checkbox"/> UZ Uzbekistan |
| <input type="checkbox"/> KG Kyrgyzstan | <input type="checkbox"/> VN Viet Nam |
| <input type="checkbox"/> KP Democratic People's Republic of Korea | <input type="checkbox"/> YU Yugoslavia |
| | <input type="checkbox"/> ZW Zimbabwe |
| <input type="checkbox"/> KR Republic of Korea | |
| <input type="checkbox"/> KZ Kazakhstan | |
| <input type="checkbox"/> LC Saint Lucia | |
| <input type="checkbox"/> LK Sri Lanka | |
| <input type="checkbox"/> LR Liberia | |

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

- ☐
- ☐

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM ☐ Further priority claims are indicated in the Supplemental Box.

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: regional Office	international application: receiving Office
item (1) ACU-12 04 December 1997	9725742.2	GB		
item (2)				
item (3)				

☐ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):

* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA)
(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA /

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)

Number

Country (or regional Office)

24 July 1998

RS 100243 GB EP

Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request : 4 ✓

description (excluding sequence listing part) : 42 ✓

claims : 4 ✓

abstract : 1 ✓

drawings : 16

sequence listing part of description : _____

Total number of sheets : 67

This international application is accompanied by the item(s) marked below:

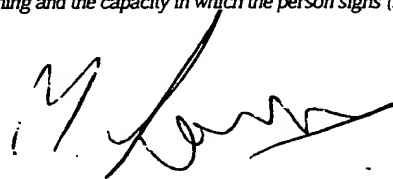
1. ☒ fee calculation sheet
2. ☒ separate signed power of attorney
3. ☒ copy of general power of attorney; reference number, if any:
4. ☐ statement explaining lack of signature
5. ☒ priority document(s) identified in Box No. VI as item(s):
6. ☐ translation of international application into (language):
7. ☐ separate indications concerning deposited microorganism or other biological material
8. ☐ nucleotide and/or amino acid sequence listing in computer readable form
9. ☒ other (specify): Search Report

Figure of the drawings which should accompany the abstract: 10

Language of filing of the international application: English

Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).



Matthew John Mitchell Lawman

For receiving Office use only

1. Date of actual receipt of the purported international application:	04 DECEMBER 1998 C4-12-98	2. Drawings: <input checked="" type="checkbox"/> received: <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.	

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Date of receipt of the record copy by the International Bureau: